

Application/ Control No.: 10/624,002
Examiner: GOLOBOY, James C

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REMARKS

The Examiner is thanked for withdrawing the rejection set forth in the Office Action mailed February 1, 2010.

In paragraph 3 of the Office Action, claims 1, 3, 7 and 11-16 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention.

The formulas have been inserted into claims 1 and 14-16. For this reason, it is requested that this ground of rejection be withdrawn.

Claims 1, 3, 7, 11, 12, and 14-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kageyama in view of Wulfers. Claim 13 was rejected under 35 U.S.C. §103 as being unpatentable over Kageyama in view of Wulfers in view of Minami.

Reconsideration is requested.

The Examiner has applied the Kageyama reference as teaching a grease comprising an alkydiphenylether oil and a diurea thickener having a structure meeting the limitations of claim 1.

Kageyama disclosed that his invention provided a grease which prevented oxidation and excellent shear stability at high temperatures. Kageyama was silent as to the ability of his grease to prevent abnormal peeling of a rolling surface of a bearing under rapid acceleration and deceleration conditions.

The Wulfers patent was applied as disclosing urea-thickened greases that may contain sodium separate as a

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corrosion inhibitor and glycerol monooleate as a corrosion inhibitor. The Examiner also commented that it would have been obvious to one of ordinary skill in the art to include the sodium sebacate, sodium sulfonate/glycerol monooleate to the grease composition of Kageyama in order to impart antioxidation properties to the composition. There is no information in Wulfers that in any way suggests that the Wulfers formulation, when added to the Kageyama formulation would provide a formulation that would prevent abnormal peeling of a rolling bearing under rapid acceleration or deceleration conditions.

Wulfers disclose a triazine-urea thickener for greases for high temperature applications. No information is given regarding the compatibility of this thickener with specific base oils. Wulfers does not teach or suggest any technical information for the prevention of an abnormal peeling of a rolling surface of a bearing under rapid acceleration and deceleration.

Wulfers at col. 4, line 66 et seq., mentions sodium sebacate as an example of an anticorrosion additive in a list that also includes glyceryl monooleate, sodium sulfonates, sodium nitrite, amino- and benzo-triazoles and the like. Wulfers does not disclose any information that focuses on sodium sebacate to the exclusion of the other anticorrosion agents.

Claim 1 points out that a specific rust preventive is present, namely a partially esterified multivalent alcohol or an organic sulfonic acid salt of an alkali metal or an alkali earth metal. Neither Kageyama nor Wulfers disclose these rust preventives.

The addition of sodium sebacate to the grease results in a grease that provides extended bearing life even when

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deceleration where abnormal peeling is prevented. It is not obvious to use sodium sebacate as a peeling preventative based on the teachings of Wulfers. When the test results of Example 1 and Comparative Example 1 (Specification, pages 21 and 22) are considered, it is apparent that the addition of sodium sebacate provides extends bearing life (>300 hours vs. 130 hours) in a rapid acceleration-deceleration test

The test data on pages 21 and 22 of the specification data in the specification has been dismissed by the Examiner as not being commensurate with the scope of the claims. Claim 1 is specific to sodium sebacate and a partially esterified multivalent alcohol or an organic sulfonic acid salt of an alkali metal or an alkali earth metal. These were present in the tested compositions.

Wulfers teaches away from combining the sodium sebacate with organic grease thickeners as they "do not afford the extended operating lifetimes as measured by thermal and mechanical stability at high temperatures" (col. 1, lines 53-56). Thus the negative teaching against the use of the organic thickeners, is persuasive that the combined teachings of Wulfers and Kageyama fail to establish a *prima facie* case of obviousness.

Wulfers' invention is related to a triazine urea compound that acts as a thickening agent and that compound is not an aromatic urea because the heterocyclic triazine ring is not an aromatic ring. In addition, the formula of claim 1 of Wulfers has an R group which is an aliphatic hydrocarbyl group of 16-22 carbon atoms. Since the triazine urea of Wulfers is distinctly different from the aromatic diurea of the present invention, the combination of the triazine urea compound and the sodium sebacate of Wulfers cannot suggest the combination of the aromatic diurea and sodium sebacate according to the claims of the present

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application. The data of record which points out that grease compositions within the claims when used with a sealed bearing provide excellent results in the high-temperature and high-speed test, the sudden acceleration/deceleration test and the rust preventive test is persuasive of the non-obviousness of the claimed invention.

The negative teaching in Wulfers that relates to sodium sebacate makes it unobvious to use sodium sebacate with the agents of Kageyama because Wulfers teaches away from combining sodium sebacate with the urea thickeners of Kageyama. This argument points up the fact that only in the claims of the present application does one find the combination of the specific dialkyl phenyl ether oil, the urea thickener, sodium sebacate and the specific rust preventives of the amended claims.

The data of the Examples and the Comparative Examples are believed to be commensurate with the amended claims which all recite the presence of a rust preventive agent and sodium sebacate. The test data demonstrates that the presence of the combination barium sulfonate (a organic sulfonic acid salt of an alkali metal) or sorbitan trioleate (a partially esterfied multivalent alcohol) in the absence of sodium sebacate provides a rust preventive effect but inferior performance regarding speed and acceleration testing. This data is based on the presence or absence of the sodium sebacate component.

Minami discloses a grease that employs a non-aromatic diurea compound without any mention of sodium sebacate. No mention is made in Minami or in Kageyama or in Wulfers that sodium sebacate prevents abnormal peeling effect of rolling bearings.

Rust preventive agents are mentioned by Minami but the combination claimed in the present application is not made

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obvious by Minami alone or in combination with Kageyama or Wulfers. For these reasons, it is requested that the rejection of record be withdrawn.

An early and favorable action is earnestly solicited.

Respectfully submitted,



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